CRITICAL ITEMS LIST (CIL)

| | | | |
|---|---|---|---|
| SYSTEM: | ASI | FUNCTIONAL CRIT: | 1 |
| SUBSYSTEM: | ET Interface Hardware | PHASE(S): | b |
| REV & DATE: | J, 12-19-97 | HAZARD REF: | S.11 |
| DCN & DATE: | | | |
| ANALYSTS: | C. Rush/E. Howell | | |

FAILURE MODE: Structural Failure

FAILURE EFFECT: b) Loss of mission and vehicle/crew due to debris source to Orbiter.

TIME TO EFFECT: Immediate

FAILURE CAUSE(S): A: Improper Manufacture
B: Failure of Attaching Hardware

REDUNDANCY SCREENS: Not Applicable

FUNCTIONAL DESCRIPTION: Protective fairing over ET bipod rotational mechanism.

| FMEA ITEM CODE(S) | PART NO. | PART NAME | QTY | EFFECTIVITY |
|---|---|---|---|---|
| 4.5.37.1 | 80911031115-049 | Cover, Subassembly | 1 | LWT-54 & Up |
| 4.5.38.1 | 80911031115-050 | Cover, Subassembly | 1 | LWT-54 & Up |

REMARKS: The covers are grouped as the failure mode, causes and effects are the same.

| | | | |
|---|---|---|---|
| SYSTEM: | ASI | REV & DATE: | J, 12-19-97 |
| SUBSYSTEM: | ET Interface Hardware | DCN & DATE: | |
| FMEA ITEM CODE(S): | 4.5.37.1, 4.5.38.1 | | |

RATIONALE FOR RETENTION

DESIGN:

A, B: The cover is formed from 6061-T6 aluminum alloy. Materials are selected in accordance with MMC-ET-SE16 which assures repetitive conformance of composition and properties. The cover and attachment hardware are designed to the required ultimate safety factor of 1.4 (ET Stress Report 826-2188).

B: Attaching hardware is selected from the Approved Standard Parts List (ASPL 826-3500), installed per STP2014 and torqued using values specified on Engineering drawings. Tensile installation loads are sufficient to provide screening for major flaws in individual fasteners.

TEST:

The Cover, Subassembly is certified. Reference HCS MMC-ET-TM08-L-S130 (LWT-54 thru 88) and HCS MMC-ET-TM08-L-S508 (LWT-89 & Up).

Vendor:

B: Attaching fasteners are procured and tested to standard drawings 26L2 and MS21076.

INSPECTION:

Vendor Inspection - Lockheed Martin Surveillance:

A, B: Verify materials selection and verification controls (MMC-ET-SE16, drawing 80911031115 and standard drawings 26L2, MS21076).

A: Inspect dimensional conformance (drawing 80911031115).

MAF Quality Inspection:

B: Inspect that attaching hardware is free from damage (drawing 80911051139 and STP2014).

A, B: Verify fastener installation and witness torque (drawing 80911051139).

FAILURE HISTORY:

Current data on test failures, unexplained anomalies and other failures experienced during ground processing activity can be found in the PRACA data base.